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Young People and Alcohol: Changes in Behaviour, Risk and Protective Factors

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This study examines young peoples' alcohol consumption behaviours using the results of the last Ireb survey (2007). The scope of this survey, previously limited to 13-20 year-olds, was extended to include 21-24 year-olds providing a better understanding of behavioural change during the critical transition from adolescence to adulthood which tends to occur at a later age. Complementary data from two European surveys, (HBSC and ESPAD) and two French surveys (ESCAPAD and the Inpes Health Barometer) were also exploited, providing data up to the year 2011.

Alcohol consumption patterns among young people aged 13 to 24 were measured in terms of frequencies, quantities consumed, episodes of drunkenness and the age at first alcohol use according to gender. Factors associated with different consumption patterns, particularly those presenting a risk of alcohol abuse and dependence, were then studied on the basis of young peoples' individual and socioeconomic characteristics, social influences (family, peers), context (parties, outdoors...) and participation in sports. Finally, the results were examined in the light of behavioural changes observed since the beginning of the years 2000.

All the surveys confirmed a downward trend in alcohol consumption both in young people and adults, maintaining France within the European average. At the same time, they also revealed an increase in heavy episodic drinking (binge drinking) and intoxication, and an increased level of alcohol-use among girls thus narrowing the gender gap.

Alcohol consumption is a public health issue given the serious medical, social and economic consequences of alcohol abuse and dependence. In terms of public policy, early intervention appears essential. Age at first alcohol use is often a predictor of future behaviour, and although the major-

ity of young people progressively adopt low-risk adult consumption patterns, a percentage are at risk of progressively developing harmful behaviours leading to alcohol abuse and dependence.

This study on alcohol consumption patterns and behaviours specific to young peo-

ple is essentially based on the last survey conducted by the Institute for Scientific Research on Alcoholic Beverages (Ireb)¹, in November 2007 (Sources and Methods

¹ The Ireb has an independent and voluntary scientific committee and a code of ethics that guarantees independent research (Cf. www.ireb.com).

CONTEXT

This study on young people's alcohol consumption synthesises part of the 2007 Ireb survey results^a with its specificities (young school children or not, quantities consumed and associated factors). The authors would like to thank Pascale Lengagne, Marie Choquet, Nicole Leymarie and Xavier Neveu for their collaboration. The analysis is completed by additional epidemiological data taken from the French waves of two European surveys, HBSC^b and ESPAD^b, and data from two French surveys, ESCAPAD^b and the Inpes Health Barometer^b, which combined provide a ten year insight into changes in behaviour. These representative surveys of the youth population are all based on self-reported information.

^a Choquet, 2012

^b Cf. Sources and Method insert p.5.

insert p. 5). The 2007 survey is the sixth in a series, the previous wave having been conducted in 2001. It differs in that it extended its previous scope, limited to 13-20 year-olds, to include 21-24 year-olds (Choquet *et al.*, 2012). Adolescence is a critical period in the transition to adulthood in which youth not only learn social, moral and affective "codes", but also their transgression. Studying adolescence provides clearer insights into the behavioural changes at work during this period. The Alcohol Use Disorders Identification Test (Audit 10) used to identify alcohol-related risk behaviours (Gache *et al.*, 2005), and the analysis of associated factors provided interesting behavioural insights. The Ireb survey builds on other, essentially European, studies presenting concordant conclusions on the question of youth alcohol use. Three additional epidemiological studies thus supplied French data: HBSC (Health Behaviour in School-aged Children), ESPAD (European School Survey on Alcohol and other Drugs) and ESCAPAD (Survey on Health and Consumption on Call-up and Preparation for Defence-Day), covering the period from 11 to 17 years old, complemented by the Inpes Health Barometer covering young adults (15-30 year-olds). A comparison of results from these different surveys is nevertheless delicate as they do not all deal with the same age groups (Sources and Methods insert p. 5).

After having described the diversity of alcohol consumption behaviours accord-

ing to age and gender (frequencies, quantities, drunkenness, age at first alcohol use) among 13-24 year-olds, we modelled the diversity of factors associated with alcohol-use behaviours presenting a risk of abuse or dependence. Certain factors provided new insights such as individual and socioeconomic characteristics, social influence (parents and peers), the social context of alcohol use and more particularly, participation in sports activities. The results presented take into account changes in behaviour observed over more than a 10-year period, from the 2001-2007 Ireb surveys up to 2011 for the other surveys.

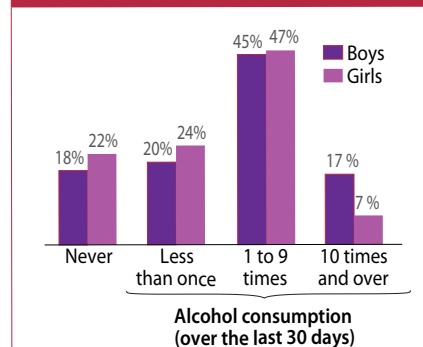
Age and gender are determinant factors in alcohol consumption patterns

Behaviours and attitudes regarding alcohol are extremely heterogeneous according to age and gender. The results of the last Ireb survey indicate that the majority of young people consumes alcohol moderately but that 6% of boys and 2% of girls have serious drinking problems. This proportion progressively increases up to the age of 22 and then declines.

Boys drink more often than girls

In terms of frequencies, girls always drink less regularly than boys, whatever the time reference: 18% of boys aged between 13 and 24 reported never having consumed alcohol in their life, 20% had consumed alcohol on at least one occasion in the last 30 days, 45% on 1 to 9 occasions, and 17% on 10 occasions or more. The frequencies of alcohol consumption among girls were respectively 22%, 24%, 47% and 7% (graph 1). The major difference observed concerns the highest frequency which is sometimes described as "regular" alcohol use in other surveys.

G1 Distribution of young people aged from 13 to 24 according to frequencies of alcohol consumption



Source: Ireb survey 2007. Realisation: Irdes.

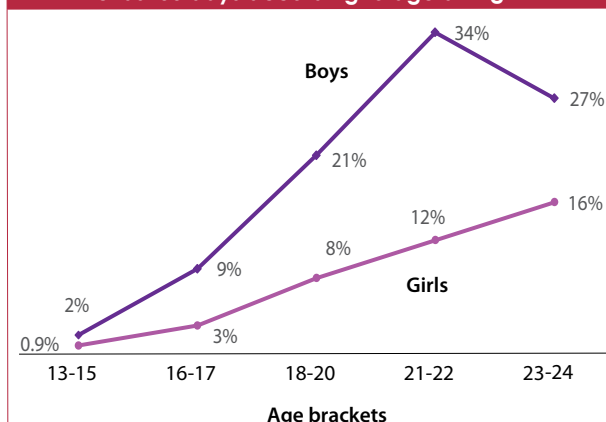
Download the Excel® file on Irdes Internet site.

Frequency of alcohol consumption increases with age

If 13-15 year-olds most frequently reported not having consumed alcohol or less than once in the last thirty days (38% of boys and 43% of girls), alcohol use becomes more often occasional from 16 years old (1 to 9 occasions) for both sexes. On the contrary, for heavy alcohol use (≥ 10 times), the ratio of boys to girls is equal to 3 from 16-17 years old (9%/3%) and up to 21-22 years old (34%/12%); it then decreases to 1.7 at 23-24 years old indicating a decline in boys' alcohol use but a continuing increase among the girls (27%/16%) [graph 2].

This is consistent with the results of the ESPAD [Hibell *et al.*, 2012] and HBSC

G2 Alcohol consumed 10 or more times in the last 30 days according to age and gender



Source: Ireb 2007.

Realisation: Irdes.

Download the Excel® file on Irdes Internet site.

[Godeau *et al.*, 2012] surveys. Girls tend to increase alcohol use progressively whereas boys record a sharp increase. Furthermore, a review of the literature carried out by the National Institute for Alcohol Abuse and Alcoholism (NIAAA, 2006) shows that young people tend to drink excessively during early adulthood.

In terms of quantity, boys also drink much more than girls

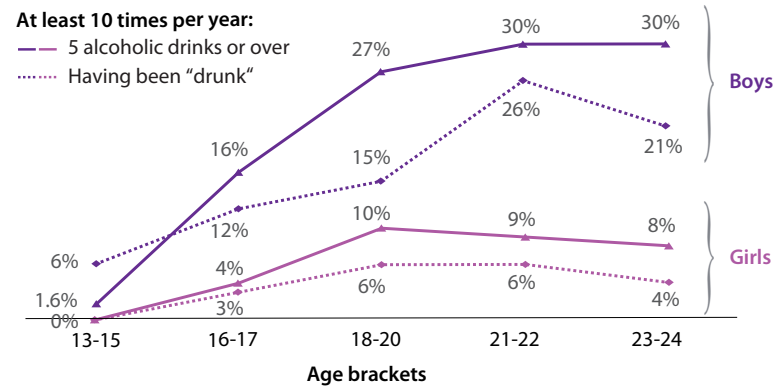
The Ireb survey's original indicator measuring the quantity of alcohol consumed is expressed by the number of "standard drinks" consumed per month (SD = 10 gm. pure alcohol per drink). According to this measurement, boys drink three to four times more alcohol than girls according to age.

If the overall average alcohol consumption levels per month are relatively low among the 13-17 year-olds, the difference between boys and girls is already apparent: 16.6 SD against 3.9 for girls of the same age (over four times higher). Consumption levels rapidly increase in young adults (18-24 year-olds) to 55.3 SD for boys and 19.9 for girls (respectively three and five times higher than minors of the same sex), but the gap between genders is narrower at less than three times higher.

Alcohol use is nevertheless relatively modest compared to that of adults given that the annual consumption levels reported by eight out of ten adults in France was on average 2.7 SD per day, i.e. over 80 per month (Inpes estimation, Health

G4

Prevalence of frequent 'heavy episodic drinking' (≥ 5 standard drinks per occasion) and frequent episodes of drunkenness in the last twelve months self-reported by young people according to age



Reading: 27% of boys aged between 18-20 self-report having drunk "5 or more alcoholic drinks on one occasion" 10 times or more in the last twelve months, but only 15% self-report having been "drunk"; these respective percentages are 10% and 6% among girls of the same age.

Source: Ireb survey 2007. **Realisation:** Irdes. [Download the Excel® file on Irdes Internet site.](#)

Barometer 2010). In addition, alcohol consumption among young people is more often episodic and concentrated mostly at weekends.

The majority of young people are rarely or never drunk...

Taking the definition of drunkenness proposed in the Ireb survey², 39% of boys aged between 13-24 reported never having been drunk and 11% less than once in the last twelve months. However, 35% reported 1 to 9 episodes of drunkenness and 15% ten or more episodes over the same period, whereas girls presented fewer risks (graph 3). If one takes the consumption level "5 or more drinks per occasion" and compare the proportion of young people reporting heavy episodic drinking with those reporting having been "drunk" at least ten times or over in the last year, the two curves diverge: the proportion of 'episodes of drunkenness' is higher than the proportion of "binge" drinking episodes at 13-15 years old but they are inverted from 18 years old, which means that a percentage of older boys and girls situate "feeling drunk" beyond the 5 drink threshold (graph 4).

Furthermore, if binge drinking behaviour is emerging, measuring it remains difficult. The definition "5 drinks or more per occasion" used in international surveys is called into question by part of the scientific community. In France, the Inpes Health Barometer uses the terminology "heavy episodic drinking" (HED) based on "6 drinks or more per occasion".

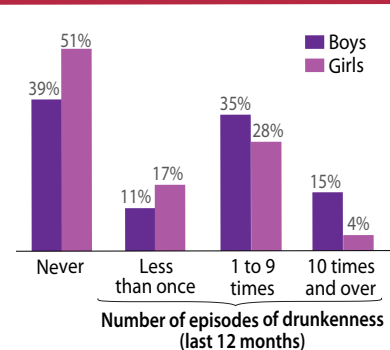
... but gender differences according to age are clearer cut

Significant differences between younger and older boys and girls were revealed whatever the degree of drunkenness. The Inpes survey revealed that 22% of boys had already been drunk between the ages of 13 and 15, and 80% between the ages of 21 and 22, stabilising at 83% between the ages of 23-24. Among the girls, percentages and progression are lower (respectively 15%, 65% and 66%). For 75% of young people, drunkenness is associated with positive effects (joy, laughter, relaxation), and less than one out ten reported negative effects (illness, loss of consciousness, depression, violence caused or suffered).

According to the ESCAPAD survey (17 year-olds, 2011), having consumed 5 or more drinks per occasion is more frequent among boys: 59.7% reported at least one occasion in the last 30 days against 46.5% of girls (Spilka *et al.*, 2012), and 4.2% of boys and 1.2% of girls reported at least ten occasions.

G3

Distribution of young people aged 13 to 24 according to self-reported frequencies of drunkenness episodes



Source: Ireb survey 2007. **Realisation:** Irdes.

[Download the Excel® file on Irdes Internet site.](#)

² Definition of drunkenness in successive Ireb surveys: 'Drunkenness refers to a state of mental arousal and lack of physical coordination due to a heavy intake of alcohol: a person who is drunk has difficulty controlling speech and physical movements.

From the first drink to drunkenness, a challenge for the future

The age at which a young person begins drinking is a significant indicator (Arvers *et al.*, 2012): the younger drinking is initiated, the greater the subsequent risks. Age at first intoxication has been shown to be a predictor of future problems with alcohol, which is not the case for age at first drink. In this respect, it should be noted that the data collected is somewhat biased: the age at which alcohol was first consumed is confronted with the problem of memory; in general, the further from the original event the question is asked (among 18-20 year-olds for example), the later it is situated. It also varies according to the importance given to the event at the time it is reported, an episode of drunkenness being more of a marker than the first drink. According to the 2007 Ireb survey, minors aged between 13-17 years old reported the first episode of drunkenness at 14.1 years old on average for boys, and 14.3 years old for girls. Young adults aged between 18-24 reporting episodes of drunkenness situated the average age of the first episode at 16.1 for boys and 16.5 for girls.

According to the same source, alcohol is generally consumed for the first time in a family context. Boys begin earlier than girls. Among the 13-17 year-olds, those that had already consumed alcohol reported having done so for the first time almost four months earlier than the girls, 12.3 years old against 12.7 years old. Among the 18-24 year-olds, the gap narrows: 14.8 years old against 15 years old. Inversely, for the first episode of drunkenness, that usually occurs at a later age in the company of friends and away from home, the gap between boys and girls is narrow among the under 18s (respectively 14.1 and 14.3 years old) and wider among young adults (16.1 and 16.5 years old respectively).

Drinking alcohol leading rarely to drunkenness, alcohol consumption and drunkenness are two distinct phenomena. Regarding consumption during the last 30 days, the 2007 Ireb survey reveals that of the 37% of youth having consumed alcohol on at least three occasions, only 6.3% were drunk at least 3 times, and of

the 12% having consumed alcohol on at least 10 occasions, only 1.3% were drunk at least 10 times.

According to the French wave of the HBSC survey on health and lifestyle behaviours conducted among school children aged 11 to 15 years old in over 40 countries, the average age at which alcohol was first consumed was 13.3 years old for boys and 13.5 years old for girls (Godeau *et al.*, 2012). Concerning weekly consumption habits, 15-year-old French pupils were in 24th place out of 39 in Europe in 2010, far behind countries such as Greece or the Czech Republic where almost 4 out of 10 pupils were concerned at that age.

What has changed since the years 2000?

Changes in alcohol consumption behaviour among young people, measured using different indicators (frequencies, quantities consumed, age at first time use), indicate a narrowing gender gap between the 2001 and 2007 Ireb surveys (Choquet *et al.*, 2004), confirmed by other surveys extending to 2011.

A narrower gap between boys and girls in terms of quantities consumed

The Ireb survey indicates that among the 13-20 year-olds³, the average quantities of alcohol consumed in 2001 was 29.4 standard drinks per month for the boys and 8.9 for the girls. Between 2001 and 2007, the quantities consumed by boys dropped by 10% (26.8 SD per month) and increased by 8% for girls (10.6 SD per month); in other words a narrower gender gap in terms of behaviour. The gap remains nevertheless wider in France than in certain Anglo-Saxon countries (the U.K for example) where girls drink as much if not more than boys (Hibell *et al.*, 2012).

First alcohol consumption occurs earlier but the average age of the first intoxication remains relatively stable

Between 2001 and 2007, the average age reported for the first alcoholic drink dropped by six or seven months for both boys and girls aged between 13-20 years

old; respectively 13.8 to 13.2 years old and 14.3 to 13.6 years old (Ireb 2001 and 2007). On the other hand, there was no significant change in the average age of the first intoxication, a more predictive indicator of future problems with alcohol. Since 2001 the first episode of drunkenness in 13-20 year-olds has remained stable for boys at 15.2 years old, and is slightly earlier for girls, from 15.6 to 15.2 years old.

Other data sources confirm these results. According to 1993 INSERM data and ESPAD survey data from 1999, 2003, 2007 and 2011 concerning 16-year-olds, the age at which alcohol is first consumed has fluctuated through time but was similar in 1993 and 2007. According to the ESCAPAD survey, the proportion of 17-year-olds having already consumed alcohol progressively decreased in the 2000s, down to 91% in 2011; 'regular' consumption (≥ 10 times over the last 30 days) fluctuated but increased again from 2008 (10.5% in 2011). Even if the first episode of drunkenness remained at around 15.3 years old, heavy episodic drinking or 'repeated' intoxications (3 to 9 occasions in the last year) as well as regular intoxications (≥ 10 occasions in the last year) occur more often in 2011.

Intoxication episodes more frequent than in 2001 but fewer than in 1996

Even if the frequencies of alcohol intoxications have increased since the years 2000 (Ireb 2001-2007), the number of young people reporting episodes of drunkenness in 2007 was lower than in 1996, whatever the period of reference (life, year, month). 51% of 13-20 year-olds reported at least one episode of drunkenness during their lifetime in 1996, 37% in 2001 and 45% in 2007, respectively 44%, 28% and 37% in the last twelve months and, 22%, 17% and 18% in the last 30 days. Frequencies of drunkenness among young people were therefore no higher in 2007 than eleven years earlier. The ESCAPAD surveys conducted among 17-year-olds revealed similar fluctuations with a downtrend in the different levels of alcohol consumption, but a significant increase in episodes of drunkenness whether "repeated"

³ The comparison can only be made between 13-20 year-olds as the 21-24 year-olds were not included in the 2001 IREB survey.

(3 to 9 times in the last year) or "regular" (≥ 10 times) [Spilka *et al.*, 2012]. According to the 2010 Inpes Health Barometer (Beck and Richard, 2013), the recent upward trend seems to be continuing. The 15 to 30-year-olds continue to distinguish themselves from older people in their less 'regular' but more excessive drinking habits. These characteristics were accentuated between 2005 and 2010, with daily consumption levels stabilising at a very low level (2.5%), but associated with an increase in heavy episodic drinking and episodes of drunkenness, and also in consumption behaviours presenting a chronic health risk or a risk of dependence (14% among the 18-25 year olds).

What are the factors determining alcohol-related risk behaviours?

Alcohol-related risk behaviours can be apprehended in different ways. In the last waves of the ESPAD survey [Hibell *et al.*, 2012], four groups presenting alcohol-related risks were identified using a consumption level indicator: non-drinkers (a third of boys and half the girls), rare consumers (a quarter of boys and around a quarter of girls), occasional consumers (15% of young people) and "regular" consumers (1 out of 8 boys, and 1 out of 20 girls). Other typologies based on a more sociological approach distinguish four different profiles (Coslin, 2003): "the party goer", who drinks to have fun, "the adventurer" who drinks to experience new sensations, "the timid" who drinks to be part of the group, to be like everyone else, and "the fugitive" who drinks to escape reality or problems.

In the 2007 Ireb survey, a typology of alcohol consumption according to risk level was determined using the AUDIT test in its 10 question version (insert p. 7). If risk-free or moderate alcohol consumption reflected the majority of consumption behaviours (49% of boys and 55% of girls aged between 13-24), around a third of young people were non-consumers (respectively 29% and 35%) whereas at-risk consumers represented 22% of boys (16% presenting a risk of alcohol abuse and 6% a risk of dependence) and 10% of girls (respectively 8% and 2%).

Are alcohol-related risk behaviours favoured by specific factors? After describing the circumstances and contexts in which alcohol is consumed on the basis of young peoples' characteristics, we searched for factors determining risk levels in alcohol consumption through the use of logistic regression models.

Young peoples' leisure activities: at-risk consumers drink whatever the social context

Globally, young people tend to drink at parties, on family occasions or in the company of friends: whatever the age, alcohol use generally occurs in a relational context, and is relatively rare during more solitary activities such as watching TV or playing video games. In the presence of an element of social control (family or adult, at a restaurant or cafe), alcohol use always remains moderate but can reach high levels –with a risk of intoxication– at private or public parties (night clubs, concerts, rave parties...). According to the 2005 Health Barometer, 20-25 year-olds tend to drink

on Saturdays with an average 4.5 drinks per occasion.

The 2007 ESPAD survey identified the context in which alcohol was last consumed revealing significant differences between countries. On average, all countries combined, 22% of the young people interviewed drank at home, 27% at someone else's house, 32% in a bar, pub or discotheque and 14% in the street, a park or on the beach. In France, young people were less likely to drink in bars, pubs and discotheques (8%) contrary to Austrians (36%), Czechs (35%), Italians (36%), the Portuguese (31%) or Greeks (26%). They were also less likely (9%) to drink in the street than the Russians (33%), Poles (30%) or Finns (25%).

Moreover, the quantities consumed increased in identical situations according to whether the young person was a no-risk drinker, an abusive drinker, or a dependent (or likely to become dependent) drinker. The various groups of consumers defined by AUDIT 10 (insert p. 7) presented dis-

SOURCES AND METHODS

1. **The 2007 Ireb survey (www.ireb.com).** The Ireb survey on young people's alcohol consumption patterns was conducted by Inserm and Irdes researchers in November 2007 among 1,815 youth aged between 13 and 24. It was the sixth survey conducted by Ireb on this theme. A first longitudinal survey interrogated a cohort of boys in 1985, 1990 and 1995. This was replaced by a cross-sectional survey interrogating both boys and girls aged from 13 to 20 in 1996 and 2001, and from 13 to 24 in 2007. **Survey method:** the survey concerns young people living within a household, excluding institutions, whatever their situation (living at their parents' home or not, active or not...) and residing in metropolitan France, excluding Corsica. It consists in face-to-face interviews on the one hand, and a self-administered questionnaire on the other. **Constitution of the sample:** the method used was the quotas method, in other words a representative sample of the population as a whole. Purposive sampling was used so as to obtain 75 young people interviewed for each year of birth concerned (1983 to 1994) and each gender.
2. **The HBSC survey.** Health Behaviour in School-aged Children, is a four-yearly survey (last available: 2011) conducted in schools and focused on health and its determinants. It is conducted by the WHO in over forty countries or regions in Europe and North America. It is based on self-administered questionnaires completed by college pupils aged 11, 13 and 15 years old using a similar methodology to the ESPAD survey.
3. **The ESPAD survey.** European School Survey Project on Alcohol and Other Drugs, is a four-yearly survey (last available : 2011) conducted in schools on the theme of alcohol and other drugs with backing from the European Council in over 30 countries using a standardised methodology based on a common self-administered questionnaire aimed at young people aged 15 and 16. The last French wave was extended to the three years at high school.
4. **The ESCAPAD survey.** The survey on Health and Consumption on Call-up and Preparation for Defence-Day, is conducted each year (last available: 2011) by the French Office of Drugs and Drug Addiction (OFDT) in partnership with the National Service Unit. It interrogates all French youth aged 17, whether at school or not, at work or not, and also provides information on emerging trends concerning the consumption of psychoactive drugs.
5. **The Health Barometer.** The Health Barometer provides data on population health and behaviours approximately every five years. The survey conducted among people aged from 15 to 85 (last available: 2010) is now conducted by telephone. Data concerning the consumption of alcohol, tobacco and illegal substances were subject to a specific analysis targeting young people aged from 15 to 30 (Beck, Richard, 2013).

Relationship between physical activities and sports and alcohol consumption patterns according to AUDIT 10

	PROBABILITY OF BEING... non-consumer at risk of abuse or dependence versus risk-free consumer							
	Under 18s		Over 18s		Under 18s		Over 18s	
	Relative risk	Significance	Relative risk	Significance	Relative risk	Significance	Relative risk	Significance
Weekly number of hours spent on physical or sports activities (PSA) [excluding mandatory hours at school or professionally]								
[1-3] hours of PSA (reference)	1	-	1	-	1	-	1	-
No PSA	1.43	0.1273	1.86	0.0068 ***	1.52	0.3184	1.04	0.8621
≥ 4 hours of PSA	0.90	0.6959	1.54	0.1200	1.14	0.7904	0.82	0.4293
Types of physical or sports activities								
Individual, without competition (ref.)	1	-	1	-	1	-	1	-
Competitive individual sport	1.36	0.3774	1.40	0.476	0.75	0.7082	0.61	0.3184
Non-competitive team sport	1.10	0.7739	3.23	0.00002 ****	1.19	0.7620	0.86	0.6578
Competitive team sport	1.13	0.6920	2.80	0.0049 ***	0.86	0.7995	2.54	0.0023 ***

Significance: **** 0.1%, *** 1 %.

Reading: Among the over 18s, rather than being risk-free alcohol consumers (reference), those who do not participate in physical activities or sports (outside mandatory hours at school or professionally) are almost twice as likely (relative risk = 1.86) to be non-consumers than those practicing between 1 and 3 hours a week (reference); this relative risk is significant at a 1% risk (p = 0.0088).

Source: Ireb survey 2007. **Realisation:** Irdes.

 [Download the Excel® file on Irdes Internet site.](#)

tinctive behaviour patterns. According to the 2007 Ireb survey, young "no-risk consumers" (52% of the sample according to the AUDIT 10 scale) never drank more than an average of 4 drinks per occasion, whatever the context. This threshold is furthermore the maximum consumption level per occasion recommended by the health authorities. On the other hand, "abusive drinkers" (12% of the sample) exceeded the threshold during family events (on average 4.7 standard drinks), in discotheques (6 SD) and even more at parties with friends (7.4 SD). As for "dependent or at risk of becoming dependent consumers", (4% of the sample), average consumption levels of over 12.3 SD were recorded at parties with friends, and 10.3 SD at a discotheque, whereas in a café or at the restaurant with the family, consumption levels remained below the 4 SD threshold (respectively 2.8 and 3.1 SD).

Similarly, several studies conducted abroad (Kuntsche *et al.*, 2005) show that the majority of adolescents drink on social or festive occasions. A Canadian study, for example, shows that the majority of university students drink because they like the taste (24.9%), to "party" (21.3 %) or to be sociable (16.9%), whereas only 2.1% drink to escape their problems or to master their shyness. Drinking "to party" or because they liked the taste were also the most frequently mentioned reasons in a study conducted among American students. A British study carried out among 14-16 year-olds also highlighted this partying aspect. Kuntsche *et al.* also refer

to a study carried out in Argentina on 13-18 year-olds who in the majority drank for pleasure (80%). Only a small minority drank to improve their mood (7%), to be accepted by peers (4.6%), to relax or to escape boredom (1%). A French study, however (Gardien, 2007), shows that seeking to get 'smashed' is a sign of deep suffering among adolescents attempting to change their reality, and that a fraction of young people are vulnerable either because they lack self-confidence or feel uncertain about the future.

The following analyses were based on the same method. The aim was to understand the causes of alcohol-related risk behaviours by studying the relationship between consumption behaviour and participation in physical activities or sports, socioeconomic context and the role of family and friends. For each of the themes, we first present a few descriptive data, followed by the results of the logistic regression models (multinomial LOGIT models).

Sport and alcohol: a more complex relationship than immediately appears

Concerning the relationship between sport and alcohol consumption patterns among young people, the 2007 Ireb survey revealed complex results, specifically among the 18-24 year-olds. Compared with a young person practicing a sport one to three hours per week (outside mandatory hours at school or professionally), those who do not practice a sport or physical activity are twice as likely to be non-consumers of alcohol (RR = 1.9).

Furthermore, individual and team sports, practiced at competitive or recreational level, are also associated with alcohol consumption. The type of sport practice can play two opposite roles. Compared with an individual recreational sport, practicing one or more non-competitive team sports also increases the probability of being a non-consumer (RR = 3.2). On the contrary, competitive team sports will favour non-consumption among certain participants (RR = 2.8) and at-risk consumption among others (RR = 2.5) (table 1).

Socioeconomic context has a significant influence on young people's alcohol consumption

Among the under 18s, pocket money favours alcohol abuse

The 2007 Ireb survey confirms the existence of significant relationships between young peoples' alcohol consumption and socioeconomic context. Its impact is variable according to age. Among the under 18s, pocket money received every month favours alcohol abuse in relation to those who are not given pocket money. Those receiving between 51 and 100 € per month, have 5.9 times more risk of being heavy drinkers than moderate drinkers.

This phenomenon disappears among the 18-24 year-olds. Although the majority consume alcohol, consumption levels

are moderated by social status (work or studies). At comparable available sums of money, the probability of being a non-consumer of alcohol is higher among students and secondary school pupils than among young workers. However, available monthly income (pocket money or wages) is significantly associated with having been drunk. Young people earning over 300 € per month are 1.6 times more likely to have been drunk at least once in their lifetime than those earning up to 100 € per month.

Patterns of alcohol consumption related to socio-professional category

For the under 18s, patterns of alcohol consumption are related to the father's professional category but not to that of the mother's. If we compare children whose fathers are in the executive class with those whose fathers are employees, manual workers or absent, we observe two opposing attitudes. Certain under 18s have a higher probability of being non-consumers of alcohol (up to three times higher) whereas others will become at-risk consumers (up to eight times higher). Among the over 18s, the father's professional status only increases the probability of being a non-consumer of alcohol. This is the case for young adults whose fathers are employees, manual workers or those whose fathers have never worked. Furthermore, children whose mothers are housewives are 3.7 times more likely to be non-consumers of alcohol and present a significantly lower risk of having been drunk during their lifetime. Finally, the professional status of young adults has no significant influence on their alcohol consumption patterns. These results thus illustrate the complexity of the phenomena and allow certain preconceived ideas to be refuted together with the tendency to stigmatise people at the lower end of the social scale.

Family and peers plays a major role

The Ireb survey shows that among the 13-17 year-olds, the risk of excessive alcohol consumption is higher if they perceive their parents' consumption patterns as being problematic. Inversely, the probability that an adolescent will be a non-consumer is three times higher if the parents never drink alcohol. Among the 18-24 year-olds, the risk of alcohol abuse is two times higher

if the parents regularly drink before and during meals. Contrary to the under 18s, however, a parents' alcohol abuse no longer has a significant effect as they seem to distance themselves at that age. In addition, the 2001 survey conducted among 13-20 year-olds showed that if one of the parents is often in state of inebriation, girls are more likely to become non-consumers than boys. Peer group pressure is even more apparent. Among the under 18s, the risk of alcohol abuse or dependence is sixteen times higher if their friends get drunk at least once a week; a probability multiplied by twelve for the over 18s.

These observations are consistent with a Dutch study conducted among 12-14 year-olds (Bot *et al.*, 2005) that underlines the influence of "best friends" on alcohol consumption patterns. An American study conducted among 213 adolescents aged from 12 to 15 and 219 aged from 18 to 22 (Musher-Eizenman *et al.*, 2003) confirms that for each gender, age group and substance (alcohol, tobacco and marijuana), peer consumption patterns are strongly related to an adolescent's individual consumption.

The importance of education and parental control

Overall, the family model (matrimonial status, lifestyle, intra-family communication) has a major influence on alcohol consumption patterns among the under 18s. Among alcohol abusers or those at risk of alcohol dependence, the Ireb survey indicates an over-representation of recomposed families. No greater risk is observed, however, in single parent families as children more often live with their mothers and women are three times less at risk than men. Abusive use of alcohol leads to more self-reported difficulties in communicating with parents and they are at least twice as many to report parents' indifference regarding their use of alcohol or episodes of drunkenness. Parents' authorisation (or not) to drink alcohol plays a significant role: young people who drink too much often report being allowed to drink, or at least not being dissuaded from drinking by their parents. Numerous studies, both in France and abroad, underline that young people without parental control are more likely to drink and eventually develop alcohol-related problems (Clark *et al.*,

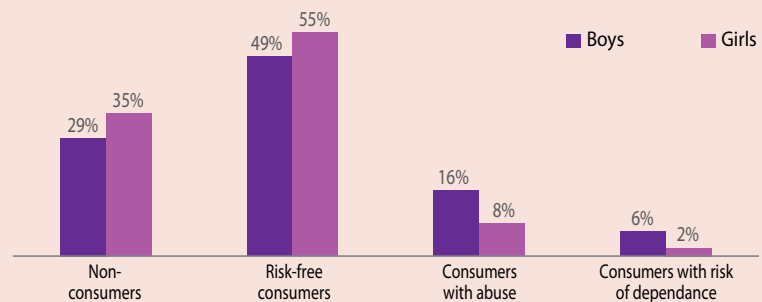


Classification of alcohol consumption patterns according to the AUDIT 10 scale

Several scales or standardised tests measure alcohol abuse and the risk of alcohol dependence among adolescents (POSIT, CRAFFT, AUDIT). The AUDIT 10 (Alcohol Use Disorders Identification Test) is a questionnaire developed by the World Health Organisation (WHO) analysing alcohol consumption in the last twelve months on the basis of 10 questions. It is the most frequently used test at international level and especially well-adapted to young people. The validated French version (Gache *et al.*, 2005) was included in the IREB survey. Based on the answers to the test, a score ranging from 0 to 40 is calculated to class young people

according to different risk levels determined by alcohol consumption thresholds. The problem of thresholds is recurrent in scientific literature as it can vary according to age, gender and culture... We use international thresholds proposed by the WHO, differentiated according to gender for risks of dependence (13 and over for men and 12 and over for women) and abuse (8 to 12 for men, 7 to 11 for women). Furthermore, we distinguish at-risk consumers from risk-free consumers and non-consumers totalling four classes of alcohol consumption patterns.

The 4 classes of alcohol consumption patterns according to AUDIT 10, 13 to 24 year-olds per gender, over the last 12 months



Source: Ireb survey 2007. Realisation: Irdes. [Download the Excel® file on Irdes Internet site.](#)

2005; Van der Vorst *et al.*, 2006; Choquet *et al.*, 2008). These results indicate the importance of associating parents in medical practice.

* * *

According to the 2007 Ireb survey, the majority of young French people aged from 13 to 24 consume alcohol moderately. A fraction will partake in bouts of heavy episodic drinking, on the increase particularly among the girls, and a minority (6% of boys and 2% of girls) have serious drink problems. Parental control tends to significantly moderate alcohol consumption patterns. If problems are more manifest with age and tend to decline from the ages of 23 or 24, subsequent risk factors nevertheless exist. All the studies converge on

the fact that alcohol consumption decreases slightly at that age, in the same way as among adults, but that episodes of drunkenness are on the increase (Amsellem-Mainguy, 2011). At that age, heavy episodic drinking has damaging effects on the brain, particularly affecting memory and learning abilities. All studies carried out among representative populations raise the question of social inequalities that weigh heavily on health behaviours.

In order to be effective, prevention must take social situations into account and be supported by all the players involved (Stigler *et al.* 2011; Ireb, 2013), both parents and educators. It has been proved that the earlier the prevention, for example at primary school, the better the results. The family doctor also plays an important role

by clinically identifying alcohol-related problems and through dialogue with the young person concerned (Michaud, 2009).

In terms of public policy, following the 2008 Youth Health Plan, the 2009 Hospital, Patients, Health and Territories Law (HPST) introduced specific measures (ban on selling alcohol to minors, open bars and happy hours, advertising on the Internet...) but much remains to be done. The new National Health Strategy (2013) and the future Public Health Law expected for 2014, could favour the development of more targeted interventions aimed at the most vulnerable youth populations. Finally, it is essential to continue developing research in numerous fields of investigation, especially those related to prevention strategies. ♦

7 FOR FURTHER INFORMATION

- Amsellem-Mainguy Y. (2011). « Jeunes et alcool : consommation en baisse, ivresses occasionnelles en hausse », *Jeunesse : Etudes et Synthèses* (Observatoire de la jeunesse), n° 3, 4 p.
- Arvers P., Choquet M., Com-Ruelle L. *et al.* (2012). « Alcoolisation précoce : le consensus des chercheurs ». *Recherche & Alcoolologie. La Lettre d'Information de l'Ireb*, n° 42, p. 3.
- Beck F., Guillemot J., Legleye S. (2009), « L'alcoolisation des jeunes : l'apport de l'approche épidémiologique ». *ADSP* n° 67, juin, p. 9-15.
- Beck F., Richard J-B. dir. (2013). *Les comportements de santé des jeunes. Analyses du Baromètre santé 2010*. Inpes, coll. Baromètres santé, 344 p.
- Bot S.M., Engels R.C.M.E., Knibbe R.A., Meeus W.H.J. (2005). "Friend's Drinking Behaviour and Adolescent Alcohol Consumption: The Moderating Role of Friendship Characteristics". *Addictive Behaviors*, vol. 30, n°5, p. 929-947.
- Choquet M., Com-Ruelle L., Lengagne P., Le Guen N., Leymarie N., Neveu X. (2012). *Les 13-24 ans et l'alcool - Comportements, contextes, facteurs de risque et de modération - Analyses complémentaires de l'enquête IREB de novembre 2007*. Rapport Ireb, 290 p.
- Choquet M., Com-Ruelle L., Lesrel J., Leymarie N. (2004). « Les adolescents français face à l'alcool en 2001 - Enquête Ireb ». *Irdes, Questions d'économie de la santé*, n° 79, janvier.
- Choquet M., Hassler C., Morin D., Falissard B., Chau N. (2008). "Perceived Parenting Styles and Tobacco, Alcohol and Cannabis Use among French Adolescents: Gender and Family Structure Differentials". *Alcohol and Alcoholism*, vol. 43, n°1, p. 73-80.
- Clark D.B., Thatcher D.L., Maisto S.A. (2005). "Supervisory Neglect and Adolescent Alcohol Use Disorders: Effects on AUD Onset and Treatment Outcome". *Addictive Behaviors*, vol. 30, n°9, p. 1737-1750.
- Coslin P.G. (2003). *Les conduites à risque à l'adolescence*. Armand Colin, coll. Cours - Psychologie, 216 p.
- Gache P., Michaud P., Landry U., Accietto C., Arfaoui S., Wenger O., Daepfen J.-B. (2005). "The Alcohol Use Disorders Identification Test (AUDIT) as a Screening Tool for Excessive Drinking in Primary Care: Reliability and Validity of a French Version". *Alcoholism: Clinical and Experimental Research*, Vol. 29, n°11, p. 2001-2007.
- Gardien F. (2007), *L'alcoolisme adolescent - En finir avec le déni*. Editions L'Harmattan, 1 oct. 2007 - 352 p.
- Godeau E., Navarro F., Arnaud C. dir., (2012). *La santé des collégiens en France/ 2010. Données françaises de l'enquête internationale Health Behaviour in School-aged Children (HBSC)*. Inpes, coll. Etudes santé, 254 p.
- Hibell B., Guttormsson U., Ahlström S., Balakireva O., Bjarnason T., Kokkevi A., Kraus L. (2012). "The 2011 ESPAD Report. Substance Use among Students in 36 European Countries", 390 p.
- Ireb (2013). « Qu'est-ce qui a changé dans la consommation d'alcool chez les jeunes ? Synthèse issue de la journée scientifique de l'Ireb du 5 décembre 2012 ». *Focus Alcoolologie* n° 16, 46 p.
- Kuntsche E., Knibbe R., Gmel G., Engels R. (2005). "Why Do Young People Drink? A Review of Drinking Motives". *Clinical Psychology Review*, vol. 25, n°7, p. 841-861.
- Michaud P. (2009). « Le repérage de la consommation d'alcool est efficace chez les jeunes ». *La santé de l'homme*, n° 400, mars-avril, p. 4-5.
- Musher-Eizenman D.R., Holub S.C., Arnett M. (2003). "Attitude and Peer Influences on Adolescent Substance Use: The Moderating Effect of Age, Sex, and Substance". *Journal of Drug Education*, Vol. 33, n°1, p. 1-23.
- Stigler M. H., Neusel E., Perry C. L. (2011). "School-Based Programs to Prevent and Reduce Alcohol Use Among Youth". *Preventing Alcohol Abuse and Alcoholism—An Update, NIAAA, Alcohol Research & health*, Vol n° 34, Issue n° 2, p. 157-162 (www.niaaa.nih.gov).
- NIAAA (2006). "Young Adult Drinking". *Alcohol Alert*, n°68, 7 p., April. (www.niaaa.nih.gov).
- Spilka S., Le Nézet O., Tovar M.-L. (2012). « Les drogues à 17 ans : premiers résultats de l'enquête ESCAPAD 2011 ». *OFDT, Tendances* n° 79, 4 p.
- Spilka S., Le Nézet O. (2013). « Alcool, tabac et cannabis durant les années lycée ». *OFDT, Tendances* n° 89, 8 p.
- van der Vorst H., Engels R.C.M.E., Meeus W., Dekovic M. (2006). "Parental Attachment, Parental Control, and Early Development of Alcohol Use: A Longitudinal Study". *Psychology of Addictive Behaviors*, vol. 20, n°2, p. 107-116.
- van der Vorst H., Engels, R.C.M.E., and Burk, W.J. (2010). "Do parents and Best Friends Influence the Normative Increase in Adolescents' Alcohol Use at Home and Outside the Home?" *Journal of Studies on Alcohol and Drugs* 71(1):105-114.

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10, rue Vauvenargues 75018 Paris • Tel. : 01 53 93 43 02 • Fax : 01 53 93 43 07 •
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Director of the publication: Yann Bourgueil • Technical senior editor: Anne Evans • Associate editor: Anna Marek • Reviewers: Clément Nestrigue, Thierry Rochereau • Translator: Véronique Dandeker • Copy Editing: Anna Marek, Franck-Séverin Clérembault • Layout compositors: Damien Le Torrec • ISSN : 1283-4769.